1-Port 10/100TX Ethernet to VDSL2 Converter

100/100Mbps Downstream/Upstream, High-performance Ethernet over Phone Wire Solution

PLANET VC-231, a new-designed and high-performance Fast Ethernet-over-VDSL2 Converter with the ITU-T G.993.2 VDSL2 17A/30A profile, works well with a pervasive telephone line network with a symmetric data rate of up to **100/100Mbps (Fast, 30A 6dB)** over a distance of **200m and 22/19Mbps** over a long distance of **1.4km**. It is based on the two-core networking technology, **Fast Ethernet** and **VDSL2** (Very-high-data-rate Digital Subscriber Line 2). The VDSL2 technology offers absolutely the fastest data transmission speed over the existing copper telephone lines without the need of rewiring.

High-performance Ethernet over VDSL2

Via the latest VDSL2 technology, PLANET VC-231 offers high-speed access to Internet, up to 100Mbps for both upstream and downstream data transmissions. With integrated support for the ITU-T's **G.993.2 VDSL2 technology**, the VC-231 works in conjunction with VDSL2 DSLAMs to remove crosstalk interference and improve maximum line bandwidth across the existing copper infrastructure.

Implementing with Existing Telephone Copper Wires

The VC-231 is also a Long Reach Ethernet (LRE) converter providing one RJ45 Ethernet port and one RJ11 phone jack, which is for VDSL2 connection. Use the additional splitter from the package of the VC-231 to share the existing phone line with POTS, thus replacing the existing copper wiring is not necessary. Just plug the VC-231 with the additional splitter into the existing RJ11 telephone jack and a high-performance VDSL2 network can be connected. It is ideal for use as an Ethernet extender to an existing Ethernet network.

- Supports ITU-T G.993.2 **VDSL2 Profile 17a/30a**
- DMT-based coding technology
- Additional splitter to share voice and data
- CO/CPE mode selectable via DIP switch
- Selectable target band plan and SNR margin
- Up to 100/100Mbps bandwidth (in **Fast**, **30A 6dB** mode)
- 1 10/100BASE-TX LAN port.
- Complies with IEEE 802.3, 10BASE-T, IEEE 802.3u, 100BASE-TX Ethernet standards
- One RJ11 connector for VDSL port with VDSL connection
- Voice and data communication can be shared simultaneously based on the existing telephone wire
- Supports IEEE 802.1Q VLAN tag transparency
- VDSL2 standalone transceiver for simple bridge modem application
- Advantage of minimum installation time (Simply by Plug-and-Play)
- Supports extensive LED indicators for network diagnosis
- Wall mounting or DIN-rail installation (optional)
- Co-work with PLANET media converter chassis (MC-700/ MC-1500/ MC-1500R/MC-1500R48)
- Compact in size and easy to install

Delivering High-demanding Service Connectivity for ISP/Triple Play Devices

The VC-231 provides an excellent bandwidth demand for the triple play devices for home entertainment and communication. The **Fast**, **30A**, **6dB VDSL2 profile with 100/100Mbps data transmission**, the VC-231 enables many multi-media services to work on the local Internet, such as VoD (video on demand), voice over IP, video phone, IPTV, Internet caching server, distance education, and so on.

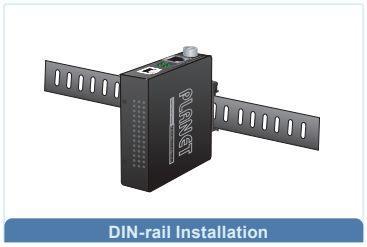
Easy and Flexible Installation

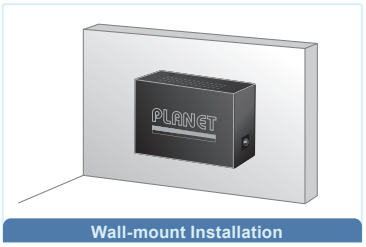
The VC-231 offers two modes, **CPE** and **CO**, for application: CPE mode is used at client side and CO mode is at central side. The CPE or CO mode can be adjusted by using a built-in DIP switch. For point-to-point connection, a CPE mode VC-231 and a CO mode VC-231 must be setup as one pair of converters to perform the connection.

The VC-231 comes with a plug-and-play design and is fully compatible with all kinds of network protocols, the VC-231 can be used as a standalone unit when powered by its DC adapter or used as a slide-in module to PLANET 10/19-inch 7-/15-slot media converter chassis (MC-700/MC-1500/MC-1500R/MC-1500R48). Moreover, the operating status of each individual port and the whole system can be watched via the rich diagnostic LEDs on the front panel.

Optional installation method


Media Chassis Installation


DIN-rail Installation



Wall-mount Installation

* The above pictures are for illustration only.

ADSL2+ Fallback

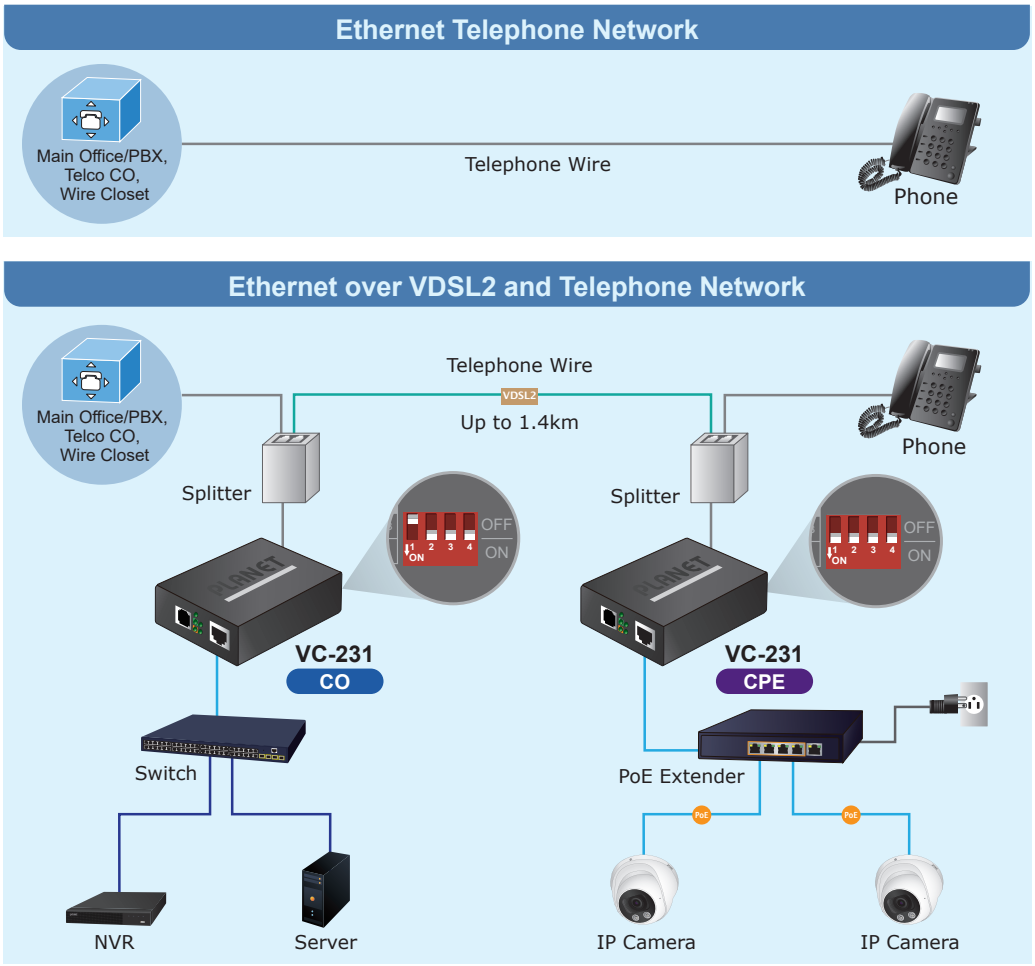
For those ISPs that still provide ADSL broadband service, the VC-231 can support transmission rates up to 24Mbps downstream and 1Mbps upstream with the ADSL2+ technology. The VC-231 establishes a connection with ISP and can be also directly switched over to VDSL2 after the ISP network upgrade.

Applications

Ethernet Distance Extension

Two VC-231 converters can act as a standalone pair which is good for Ethernet distance extension over the existing telephone wires. With just one pair of AWG-24 copper wires, two Ethernet networks can be easily connected to each other with a maximum data transmission rate of 100Mbps. The telephone service can still be used while the VC-231 CO/CPE is in operation. The two solutions listed below are typical applications for the Ethernet over VDSL2 bridge.

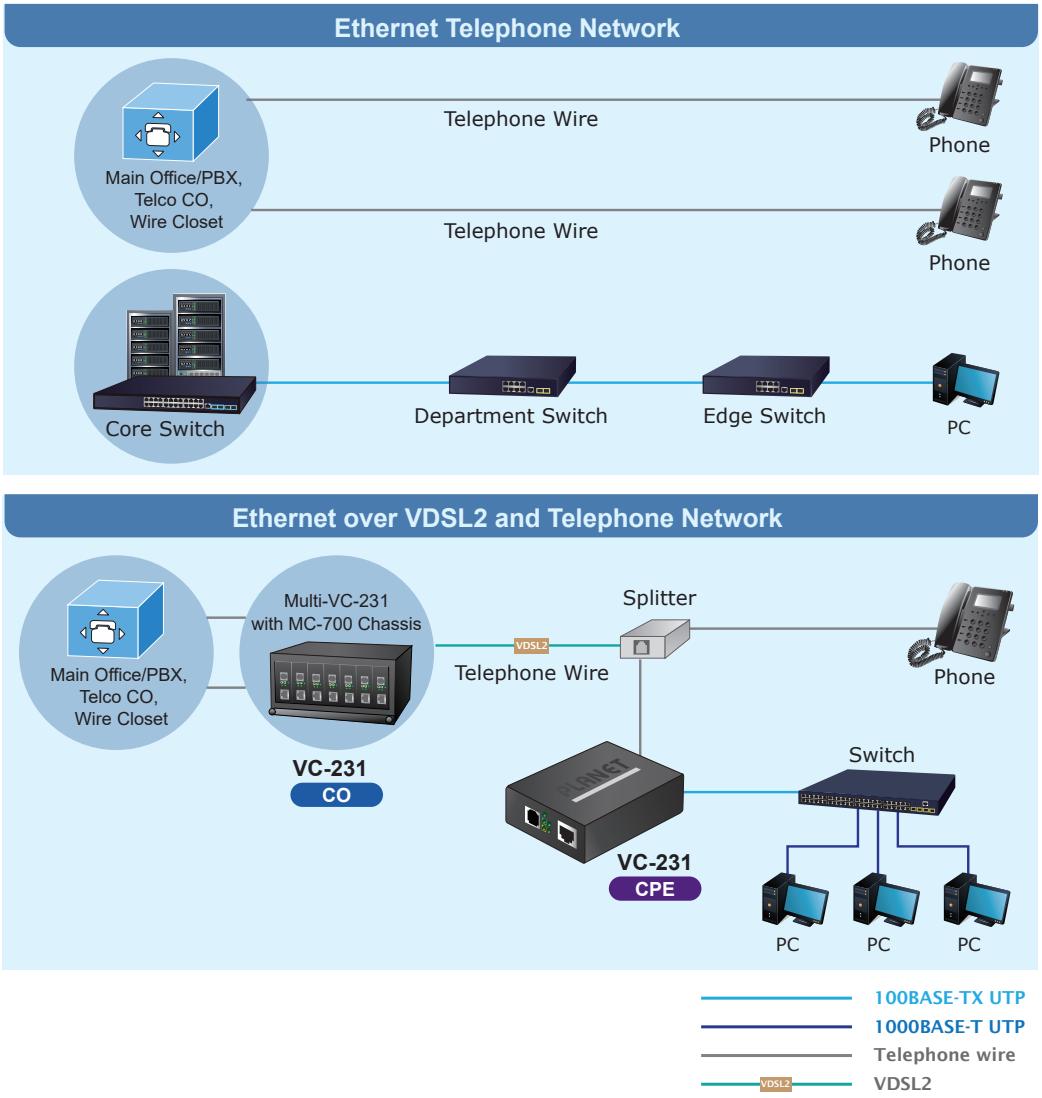
LAN to LAN Connection



MTU/MDU/Hospitality Solution

The VC-231 is a perfect solution to quickly providing cost-effective yet high-speed network services to multi-unit buildings such as residential buildings (multi-dwelling units), commercial (multi-tenant units) buildings, hotels and hospitals. By utilizing the existing telephony infrastructure, a new network installation can be easily built, without requiring new wiring. With a transmission rate of up to **100/100Mbps (Fast, 30A 6dB)** VoD, IP telephony and various broadband services can be easily provided.

Multi-LAN Connection



Product Specifications

Product	VC-231
Hardware Specifications	
Hardware Version	2
LAN Port	1 10/100BASE-TX RJ45 auto-MDI/MDI-X port
VDSL Port	1 VDSL2 RJ11 female phone jack Twisted-pair telephone wires (AWG-24 or better) up to 1.4km
DIP Switch & Functionality	4-position DIP switch ● **CO** or **CPE** mode selectable ● Selectable **Interleaved** and **Fast** mode ● Selectable target **17A / 30A profiles** ● Selectable target **SNR mode**
Phone Port	Additional splitter for POTS connection
Dimensions (W x D x H)	94 x 70.3 x 26.2 mm
Weight	196g
Power Requirements	DC 5V, 2A external power
Power Consumption/Dissipation	Max. 2.1 watts / 7.1BTU (Power on without any connection) Max. 4.8 watts / 16.3BTU (Full Loading)
LED Indicators	1 x power: Green 1 x 10/100BASE-TX LNK/ACT: Green 1 x VDSL: Green 1 x CO: Green 1 x CPE: Green
Housing	Metal
Installation	Wall-mount or DIN-rail installation (optional)
Switch Specifications	
Switch Processing Scheme	Store-and-Forward
Address Table	1K entries
Maximum Packet Size	1522bytes
Standards Conformance	
VDSL Compliance	**VDSL**-DMT ● ITU-T G.993.2 VDSL2 (Profile 17a/30a support) ● ITU-T G.997.1 ● ITU-T G.998
ADSL Compliance	Capable of **ADSL2/2+** standard ● ITU G.992.3 G.dmt.bis ● ITU G.992.5 G.dmt.bisplus Data Rate: Up to 24Mbps
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.1p Class of Service ITU-T G.993.2 VDSL2 (Profile 17a/30a support) ITU-T G.997.1 ITU-T G.998
Regulatory Compliance	FCC Part 15 Class A, CE
Environment	
Temperature	Operating: 0~50 degrees C Storage: -10~70 degrees C
Humidity	Operating: 5~95% (non-condensing) Storage: 5~95% (non-condensing)

Performance

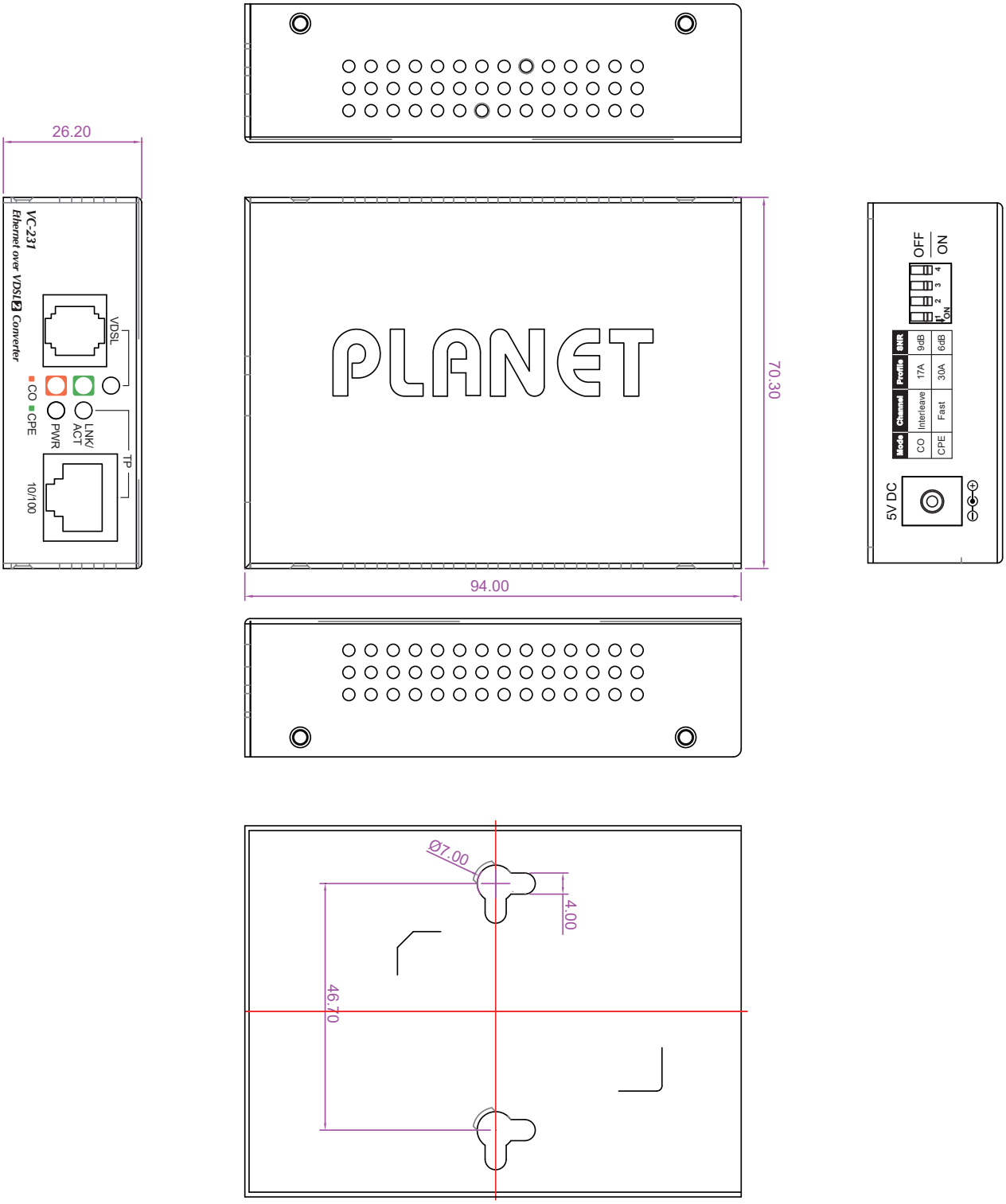
RJ11 Performance*
(Downstream/Upstream)

Distance (meter)	Interleave (Downstream/Upstream: Mbps)			
	17A		30A	
	6dB	9dB	6dB	9dB
200m	92/54	92/52	92/91	93/92
400m	92/55	91/54	92/92	92/92
600m	91/50	92/48	91/74	86/67
800m	77/39	68/37	69/50	62/45
1000m	44/26	38/27	42/32	33/29
1200m	39/10	35/9	24/23	20/18
1400m	34/6	32/5	21/20	20/18

Distance (meter)	Fast (Downstream/Upstream: Mbps)			
	17A		30A	
	6dB	9dB	6dB	9dB
200m	92/55	92/55	92/91	93/92
400m	93/59	92/55	92/91	92/81
600m	93/52	92/49	90/72	89/62
800m	75/38	64/37	67/49	59/44
1000m	43/27	37/23	38/25	37/27
1200m	37/10	32/9	24/22	19/17
1400m	32/6	32/5	21/19	18/17

* The performance data above is for reference only. The actual data rate will vary on the quality of the copper wire and environmental factors.

Dimensions



Dimensions (W x D x H): 94 x 70.3 x 26.2 mm

Ordering Information

VC-231	1-Port 10/100TX Ethernet to VDSL2 Converter (1 x RJ45, 1 x VDSL2 / RJ11,17a/30a)

Accessory

RKE-DIN	DIN-Rail Mounting Kit

Related Product

VC-231G	1-Port 10/100/1000T Ethernet to VDSL2 Converter (35b profile w/ G.vector)
VC-231GP	1-Port 10/100/1000T 802.3at PoE+ Ethernet to VDSL2 Converter (35b profile w/G.vectoring)
VC-232G	1-Port 10/100/1000T Ethernet over Coaxial Converter (35b profile w/ G.vector)
VC-234	Ethernet over VDSL2 Bridge (4 x RJ45, 1 x VDSL2/RJ11, 1 x Phone-30a)
VC-234G	Ethernet over VDSL2 Bridge (4 x RJ45, 1 x VDSL2/RJ11, 1 x Phone-35b w/G.Vectoring)
IVC-234GT	Industrial 1-Port BNC/RJ11 to 4-Port Gigabit Ethernet Extender (35b profile w/ G.vector)
IVC-234GPT	Industrial 4-Port 10/100/1000T 802.3at PoE+ to VDSL2 Extender (35b profile w/G.vectoring)
MC-700	7-Slot Media Converter Chassis
MC-1500	15-Slot Media Converter Chassis
MC-1500R	15-Slot Media Converter Chassis (AC Power)
MC-1500R48	15-Slot Media Converter Chassis (DC Power)

PLANET Technology Corporation

11F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

Tel: 886-2-2219-9518 Fax: 886-2-2219-9528

Email: sales@planet.com.tw www.planet.com.tw